

REMARKS

In the Office Action dated July 9, 2004, claims 2, 3, 27, 28, 35, and 36 were rejected under 35 U.S.C. § 102 over U.S. Patent No. 5,941,313 (Arizmendi); claims 2 and 27-29 were rejected under § 103 over US 2002/0166668 (Metcalf) in view of U.S. Patent Nos. 6,250,385 (Montaron) and 6,056,835 (Miyake); claim 5 was rejected under § 103 over U.S. Patent No. 3,712,376 (Owen) in view of Miyake; claim 6 was rejected under § 103 over U.S. Patent No. 5,443,146 (Ayyildiz) in view of Miyake; claim 7 was rejected under § 103 over U.S. Patent No. 4,122,899 (Brieger) in view of Miyake; claim 7 was rejected under § 103 over U.S. Patent No. 6,454,001 (Thompson) in view of Miyake; claims 8 and 9 were rejected under § 103 over U.S. Patent No. 4,042,019 (Henning) in view of Miyake; claims 10, 11, and 39 were rejected under § 103 over U.S. Patent No. 4,081,031 (Mohaupt) in view of Miyake; claims 30-32 were rejected under § 103 over Metcalfe in view of Montaron, Miyake, and Mohaupt; claims 30-32 were rejected under § 103 over Arizmendi in view of Mohaupt; claim 33 was rejected under § 103 over Metcalfe in view of Montaron, Miyake, and U.S. Patent No. 6,474,414 (Gonzalez); claim 33 was rejected under § 103 over Arizmendi in view of Gonzalez; claim 37 was rejected under § 103 over Metcalfe in view of Mohaupt, Montaron, and Miyake; claim 38 was rejected under § 103 over Owen in view of Miyake and Mohaupt; claims 40 and 41 were rejected under § 103 over U.S. Patent No. 3,380,528 (Timmons) in view of U.S. Patent No. 3,713,486 (Meitzen) and Miyake; claims 42 and 43 were rejected under § 103 over U.S. Patent No. 6,056,059 (Ohmer) in view of Mohaupt.

Applicant acknowledges the indication that claim 34 would be allowable if rewritten in independent form. Claim 34 has been amended from dependent form to independent form, with its scope remaining *unchanged*.

REJECTIONS OF CLAIMS UNDER 35 U.S.C. § 103 BASED ON MONTARON
AND OTHER REFERENCES

Claims 2 and 27-29 were rejected over Metcalfe in view of Montaron and Miyake. Claims 30-32 were rejected under § 103 over Metcalfe in view of Montaron, Miyake, and Mohaupt. Claim 33 was rejected under § 103 over Metcalfe in view of Montaron, Miyake, and Gonzalez. Claim 37 was rejected under § 103 over Metcalfe in view of Mohaupt, Montaron, and Miyake.

The present application and Montaron were at the time the invention was made, owned by, or subject to an obligation of assignment to, the same person (Schlumberger Technology Corporation). Therefore, Montaron is disqualified as prior art under 35 U.S.C. § 103(c). *See* M.P.E.P. § 706.02(1)(2) (8th ed., Rev. 2), at 700-55. The issue date of Montaron is June 26, 2001, which is *after* the filing date of the present application. Therefore, Montaron qualifies as prior art only under § 102(e). Since § 103(c) disqualifies prior art that qualifies only under one or more of subsections § 102(e), (f), and (g) in an obviousness rejection, withdrawal of all § 103 rejections that are based on Montaron is respectfully requested. Therefore, withdrawal of such rejections against claims 2, 27-33, and 37 is respectfully requested.

REMAINING REJECTIONS

Independent claim 2 was also rejected as being anticipated by Arizmendi. Applicant respectfully disagrees with the assertion in the Office Action that Arizmendi discloses an apparatus comprising an element formed of a superplastic material to perform a predetermined downhole test. Arizmendi describes a sheath body 22 that is a relatively thin-walled tubular member formed from stainless steel, titanium, or other material having sufficient strength and elasticity to bend without fracturing. Arizmendi, 4:29-33. However, the fact that a sheath body is elastic to enable it to bend without fracturing does not make it superplastic. A material does not automatically become superplastic – the material has to be processed in a specific manner to achieve superplasticity. As taught by Miyake, one of the references cited by the Office Action, there are several alternative techniques for making a material superplastic. *See* Miyake, 1:13-64, 7:19-10:57. There is absolutely no teaching whatsoever within Arizmendi that special processing is performed on the various materials for the sheath body 22 to make the material superplastic. Therefore, clearly, Arizmendi does not disclose an element formed of a superplastic material to perform a predetermined downhole task, in combination with a component including a seal engagable with the element.

With respect to independent claim 3, Arizmendi also does not disclose the combination of an element formed of a superplastic material to perform a predetermined downhole task, and a component including an anchor actuatable by the element.

Claims dependent from claims 2 and 3 are allowable for at least the same reasons as corresponding independent claims. Moreover, with respect to newly added dependent claims 44-49, some characteristics of a superplastic material are expressly recited to overcome the teachings of Arizmendi.

Claim 30, which depends indirectly from claim 2, was rejected as being obvious over Arizmendi and Mohaupt. The Office Action conceded that Arizmendi does not disclose a heating device to heat the superplastic material to a temperature such that the element exhibits superplastic behavior. However, the Office Action relied upon Mohaupt as teaching the heating device. It is respectfully submitted that even if Arizmendi and Mohaupt can be combined, the asserted combination of Arizmendi and Mohaupt does not teach or suggest all elements of claim 30. Specifically, neither Arizmendi nor Mohaupt

teaches or suggests a heating device to heat a superplastic material to a temperature such that the element exhibits superplastic behavior. Arizmendi has absolutely no need for such a heating device, because its sheath body 22 is not formed of a superplastic material and does not need to be heated to a temperature such that the sheath body 22 exhibits superplastic behavior. Mohaupt teaches the use of a chemical generator mixture 28 that is combusted to form a flame that traverses the walls of a housing 24, which can be made from aluminum tubing or a rigid, plastic or elastomeric material. The flame is designed to burst a rigid material, cause failure of the thinnest section of a plastic material, or to cause swelling of an elastomeric material to cause fluids in the wellbore surrounding the system to be rapidly displaced outwardly through perforations in a well casing. Mohaupt, 4:1-19. There is absolute no basis to construe the chemical generator mixture 28 as a heating device to heat a superplastic material to a temperature such that the element exhibits superplastic behavior. The Mohaupt heat generator causes bursting, failure or swelling of a housing to cause rapid displacement of surrounding fluid. That teaching clearly does not provide any suggestion of heating a superplastic material such that it exhibits superplastic behavior. Therefore, the hypothetical combination of Arizmendi and Mohaupt, even if proper, fails to teach or suggest the subject matter of claim 30.

Moreover, there simply did not exist any motivation or suggestion to combine the teachings of Arizmendi and Mohaupt to achieve the claimed invention. As noted above, there simply did not exist any need whatsoever in Arizmendi of heating the sheath body 22 for the sheath body 22 to exhibit plastic behavior. Also, there is no reason to incorporate the teachings of Mohaupt that relate to bursting, swelling, or failing of a housing to displace fluids into the seal mechanism described in Arizmendi. For the foregoing reasons, a *prima facie* case of obviousness has not been established with respect to claim 30.

Claim 33, which depends from claim 2, was rejected as being obvious over Arizmendi and Gonzalez. It is respectfully submitted that the hypothetical combination of Arizmendi and Gonzalez does not teach or suggest all elements of claim 33. Specifically, neither Arizmendi nor Gonzalez teaches an element (formed of a superplastic material) that comprises a plug to block fluid flow in a bore of the conduit. As conceded by the Office Action, Arizmendi does not disclose such an element that

comprises the plug. Gonzalez also fails to disclose such an element, as Gonzalez teaches a molten metal plug that expands upon solidification to form a pressure-resistant seal in a tubular. In other words, the seal of Gonzalez is formed by *melting* a metal, with the seal formed after solidification of the molten metal. This is clearly different from an element formed of a *superplastic material* that comprises a plug to block fluid flow. Thus, as the hypothetical combination of Arizmendi and Gonzalez fails to teach or suggest all elements of claim 33, it is respectfully submitted that a *prima facie* case of obviousness has not been established with respect to claim 33.

Independent claim 5 was rejected as being obvious over Owen and Miyake. The obviousness rejection of independent claim 5 over Owen and Miyake is defective. Although Owen describes a liner that can be used as a sand screen, Owen makes no mention whatsoever of using a superplastic material in its sand screen. Miyake describes a superplastic material, but there is absolutely no suggestion anywhere within Miyake of using its superplastic material to form an element that is part of a sand screen. The Office Action does not cite to any other knowledge that would have been possessed by persons of ordinary skill in the art to provide the necessary motivation or suggestion to combine the reference teachings.

The Office Action stated that it would have been obvious to have modified Owen to be made from a superplastic material as taught by Miyake “in order to have formed the element from the material that was capable of being subjected to expanding without failure (1:5-10).” 7/9/2004 Office Action at 4. Further, the Office Action stated that “[o]ne would have been motivated to make such a combination because an element that was more versatile and less prone to failure would have been obtained, as taught by Miyake et al. (36:1-20).” *Id.* The only suggestion of forming a sand screen out of a superplastic material is provided by the disclosure of the present invention. There is absolutely no suggestion whatsoever, except based on impermissible hindsight reconstruction, of combining the teachings of Owen and Miyake. The Office Action further stated that, “Miyake was used merely to supply a teaching that aluminum was a known superplastic material as admitted by applicant beginning in line 30 of page 3 of the specification of the instant application.” 7/9/2004 Office Action at 15. It is entirely improper to use the disclosure of the present invention (on page 3, at line 30, of the

present specification) as an admission of prior art. Page 3, at line 30, of the present specification teaches that a superplastic material may be a metal, which includes aluminum. However, the present specification further teaches that a superplastic material has certain characteristics, which are set forth on page 4 of the present specification. Aluminum by itself is not superplastic – aluminum must be specially processed, as taught by Miyake, to achieve superplasticity. To the extent that the Office Action is basing its obviousness rejection on the fact that any aluminum is known to have superplastic characteristics, that assumption is erroneous.

In view of the foregoing, it is respectfully submitted that there existed no motivation or suggestion to combine the teachings of Owen and Miyake. A *prima facie* case of obviousness has not been established against claim 5 (or its dependent claim 38).

Independent claim 6 was rejected as being obvious over Ayyildiz in view of Miyake. Claim 6 recites an apparatus for use in the wellbore that comprises an element formed of a superplastic material to perform a predetermined downhole task, and a shock absorber that includes such an element. As conceded by the Office Action, the shock absorber of Ayyildiz does not contain an element that performs a predetermined downhole task. In fact, Ayyildiz teaches a shock absorber for use in motor vehicles. There is absolutely no teaching whatsoever that the shock absorber of Ayyildiz can be modified to include an element for performing a predetermined downhole task. Therefore, the hypothetical combination of Ayyildiz and Miyake clearly does not disclose or suggest all elements of claim 6.

Moreover, there simply did not exist any motivation or suggestion to combine the teachings of Ayyildiz and Miyake. There is absolutely no indication whatsoever in Ayyildiz that its shock absorber, designed for use in motor vehicles, would benefit from including an element formed of a superplastic material. Ayyildiz does teach that its shock absorber has an inner tube made at least partly of aluminum. However, aluminum is not a superplastic material unless it is specially processed to become a superplastic material. The reading of any aluminum as being a superplastic material is clearly erroneous. Miyake does not teach that any aluminum is a superplastic material. Miyake teaches that aluminum has to be specially processed to become a superplastic material. In view of the foregoing, it is respectfully submitted that claim 6 is not obvious over

Ayyildiz and Miyake. A *prima facie* case of obviousness has thus not been established against claim 6.

Independent claim 7 was rejected as being obvious over either Brieger in view of Miyake or Thompson in view of Miyake. The obviousness rejections of independent claim 7 over Brieger and Miyake and over Thompson and Miyake are defective. Although Brieger describes a shear pin, Brieger makes no mention whatsoever of using a superplastic material in its shear pin. Similarly, although Thompson describes a shear sub, Thompson makes no mention whatsoever of using a superplastic material in its shear sub. Miyake describes a superplastic material, but there is absolutely no suggestion anywhere within Miyake of using its superplastic material to form an element that is part of a releasable connector mechanism. The Office Action does not cite to any other knowledge that would have been possessed by persons of ordinary skill in the art to provide the necessary motivation or suggestion to combine the reference teachings. The Office Action cited to the fact that Brieger discloses that its shear pin can be made of aluminum, and thus, that would be suggestive of a superplastic material. That is clearly not the case, as the presence of aluminum does not automatically suggest a superplastic material. The same rationale applies to Thompson. Therefore, a *prima facie* case of obviousness has not been established against claim 7.

Independent claim 8 was rejected over the combination of Henning and Miyake. The same rationale was provided to reject claim 8 over Henning and Miyake. The Office Action stated that Henning discloses an element formed of aluminum, and thus, that would be the suggestion needed to combine Henning and Miyake to achieve the claimed combination. As discussed above, such rationale is clearly erroneous. A *prima facie* case of obviousness has thus not been established with respect to claim 8 (or its dependent claim 9).

Independent claims 10 and 11 were rejected as being obvious over Mohaupt in view of Miyake. The rationale for combining Mohaupt with Miyake is based on the fact that Mohaupt discloses an element that is formed from aluminum. As explained above, this basis for combining a reference with Miyake is clearly erroneous. A *prima facie* case of obviousness has thus not been established with respect to claims 10 and 11 (or dependent claim 39).

Independent claim 40 was rejected as being obvious over Timmons, Meitzen, and Miyake. The rationale underlying the rejection of claim 40 over Timmons, Meitzen, and Miyake is that Timmons discloses a fishing tool with an expandable element, Meitzen discloses anchoring devices with slips that include aluminum, which provided the hook to bring Miyake into the combination. The use of aluminum as the motivation to incorporate the teachings of Miyake into Timmons and Meitzen is clearly erroneous. A *prima facie* case of obviousness has thus not been established with respect to claim 40 (or its dependent claim 41).

Independent claim 42 was rejected as being obvious over Ohmer in view of Mohaupt. It is respectfully submitted that no motivation or suggestion existed to combine the teachings of Ohmer and Mohaupt. Ohmer teaches the use of a post-forming tool deployed into a branching sub to extend outlet members of the branching sub outwardly. The forming tool applies pressure to perform the deformation of the branching sub outlets. There is absolutely no indication of any desirability to incorporate a heating device to heat an element formed of a superplastic material to a temperature such that the element exhibits superplasticity. Therefore, no motivation existed to combine the teachings of Ohmer and Mohaupt. A *prima facie* case of obviousness has not been established against claim 42 (or its dependent claim 43).

All claims are in condition for allowance, which action is respectfully requested. The Commissioner is authorized to charge any additional fees or credit any overpayment to Deposit Account No. 20-1504 (SHL.0102US).

Respectfully submitted,

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